1. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-16x^2 - 15x + 8 = 0$$

A. $x_1 \in [-0.8, 0.6]$ and $x_2 \in [0.5, 2.9]$

B. $x_1 \in [-6.5, -5.4]$ and $x_2 \in [20.4, 23.1]$

C. $x_1 \in [-28.9, -26.1]$ and $x_2 \in [25.8, 28.3]$

D. $x_1 \in [-1.4, -1.2]$ and $x_2 \in [-0.1, 0.8]$

E. There are no Real solutions.

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2. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$54x^2 - 69x + 20$$

A. $a \in [1.1, 2.9], \quad b \in [-8, 1], \quad c \in [26.7, 27.1], \text{ and } \quad d \in [-5, 6]$

B. $a \in [4.8, 7.1], \quad b \in [-8, 1], \quad c \in [7, 10.5], \text{ and } \quad d \in [-5, 6]$

C. $a \in [16.5, 18.1], \quad b \in [-8, 1], \quad c \in [2.1, 4.6], \text{ and } \quad d \in [-5, 6]$

D. $a \in [-1, 1.9], \quad b \in [-49, -44], \quad c \in [-1.6, 1.9], \text{ and } \quad d \in [-26, -22]$

E. None of the above.

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3. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$20x^2 + 21x - 54 = 0$$

A. $x_1 \in [-45.86, -43.9]$ and $x_2 \in [24, 24.04]$

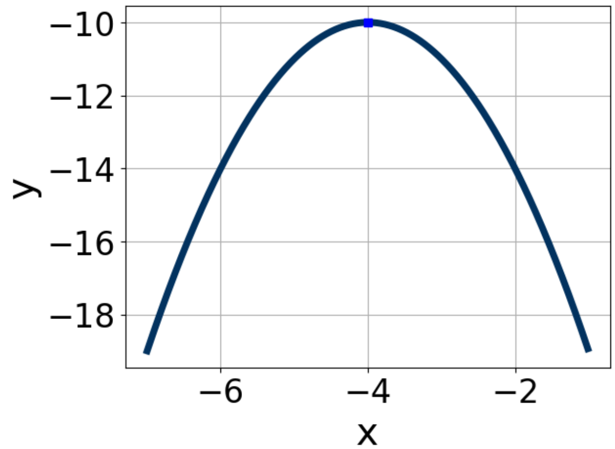
B. $x_1 \in [-2.93, -1.16]$ and $x_2 \in [1.15, 1.23]$

C. $x_1 \in [-9.52, -7.6]$ and $x_2 \in [0.23, 0.33]$

D. $x_1 \in [-7.78, -6.38]$ and $x_2 \in [0.32, 0.43]$

E. $x_1 \in [-1.46, 0.27]$ and $x_2 \in [2.34, 2.49]$

4. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-2.3, 0], \quad b \in [7, 9], \text{ and } \quad c \in [-29, -23]$

B. $a \in [-2.3, 0], \quad b \in [-8, -5], \text{ and } \quad c \in [-29, -23]$

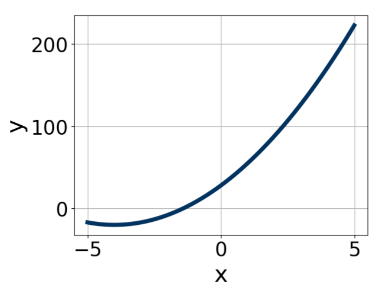
C. $a \in [-0.8, 2], \quad b \in [7, 9], \text{ and } \quad c \in [5, 7]$

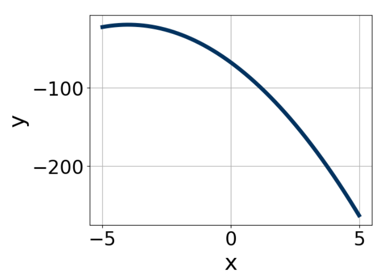
D. $a \in [-0.8, 2], \quad b \in [-8, -5], \text{ and } \quad c \in [5, 7]$

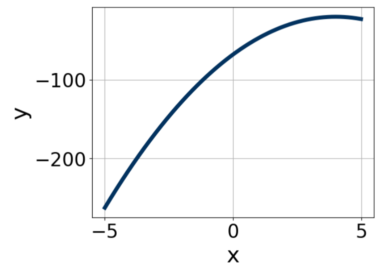
E. $a \in [-2.3, 0], \quad b \in [7, 9], \text{ and } \quad c \in [-9, 0]$

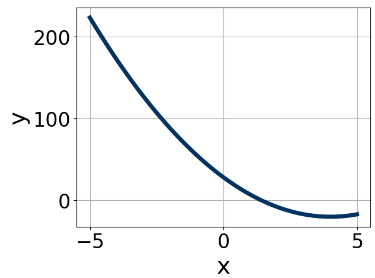
5. Graph the equation below.

$$f(x) = -(x - 4)^2 - 20$$

A. 

B. 

C. 

D. 

E. None of the above.

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6. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$15x^2 - 38x + 24 = 0$$

A. $x_1 \in [17.89, 18.1]$ and $x_2 \in [19.88, 20.11]$

B. $x_1 \in [0.34, 0.59]$ and $x_2 \in [3.67, 4.24]$

C. $x_1 \in [1.15, 1.44]$ and $x_2 \in [1.18, 1.44]$

D. $x_1 \in [0.55, 0.63]$ and $x_2 \in [2.51, 2.95]$

E. $x_1 \in [0.66, 0.89]$ and $x_2 \in [2.33, 2.46]$

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7. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax+b)(cx+d); b \leq d$.

$$24x^2 + 38x + 15$$

A. $a \in [2.83, 5.18], \quad b \in [-4, 5], \quad c \in [5.75, 6.63], \text{ and } \quad d \in [4, 6]$

B. $a \in [0.48, 1.02], \quad b \in [14, 25], \quad c \in [-0.66, 1.05], \text{ and } \quad d \in [17, 21]$

C. $a \in [7.83, 8.35], \quad b \in [-4, 5], \quad c \in [2.9, 3.37], \text{ and } \quad d \in [4, 6]$

D. $a \in [1.49, 2.68], \quad b \in [-4, 5], \quad c \in [10.76, 12.3], \text{ and } \quad d \in [4, 6]$

E. None of the above.

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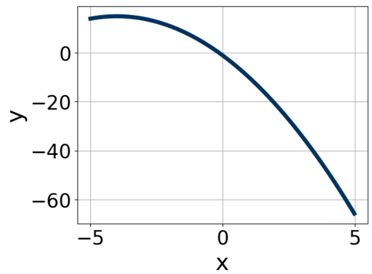
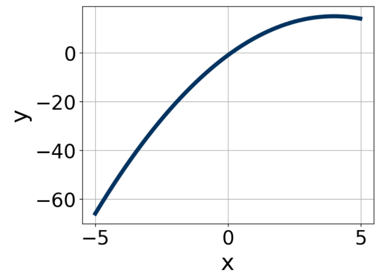
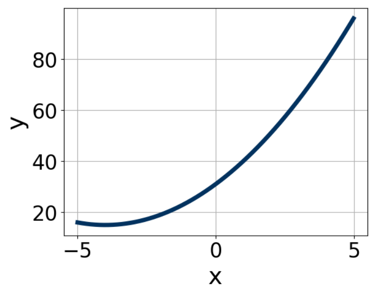
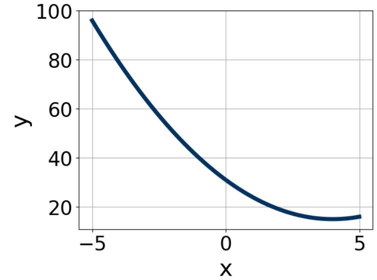
8. Graph the equation below.

$$f(x) = -(x-4)^2 + 15$$

A. 

C. 

B. 

D. 

E. None of the above.

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9. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$18x^2 - 9x - 6 = 0$$

A. $x_1 \in [-1.49, -0.48]$ and $x_2 \in [-0.1, 0.46]$

B. $x_1 \in [-0.48, -0.37]$ and $x_2 \in [0.41, 1.42]$

C. $x_1 \in [-7.54, -6.59]$ and $x_2 \in [15.45, 16.28]$

D. $x_1 \in [-22.45, -21.84]$ and $x_2 \in [22.52, 23.78]$

E. There are no Real solutions.

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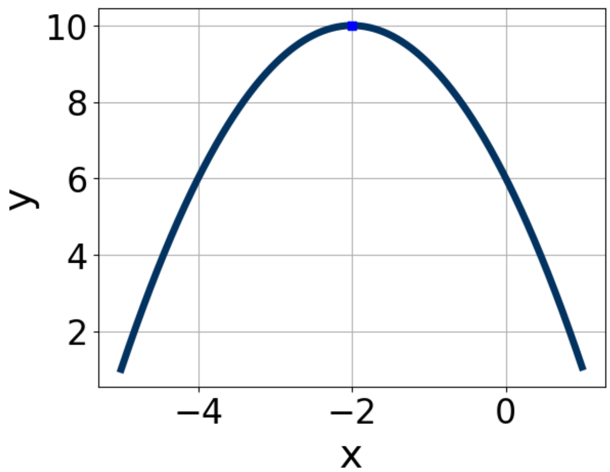
10. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-1.1, -0.4], \quad b \in [3, 6], \text{ and } \quad c \in [-15, -10]$

B. $a \in [0.8, 2.9], \quad b \in [3, 6], \text{ and } \quad c \in [10, 15]$

C. $a \in [0.8, 2.9], \quad b \in [-4, -1], \text{ and } \quad c \in [10, 15]$

D. $a \in [-1.1, -0.4], \quad b \in [-4, -1], \text{ and } \quad c \in [4, 7]$

E. $a \in [-1.1, -0.4], \quad b \in [3, 6], \text{ and } \quad c \in [4, 7]$